



July 8, 2015

Samuel Wade  
California Air Resources Board  
Branch Chief, Transportation Fuels Branch  
1001 I Street  
Sacramento, CA 95814

Re: Second Notice of Proposed 15-day Regulation Order containing Modified Text and Availability of Additional Documents and Information for the Proposed Re-Adoption of the Low Carbon Fuel Standard

Dear Samuel Wade:

On behalf of DuPont, thank you for the opportunity to comment on the Second Notice of Proposed Modified Text for the LCFS. DuPont has significant investments in advanced biofuels that meet the specified greenhouse gas reduction threshold. These fuels will make transformative contributions to our nation's energy security, reduce greenhouse gas emissions and strengthen rural economies. These fuels represent a tremendous shift in how we energize our planet and are being commercialized due in large part to visionary state fuels programs like the CA Low Carbon Fuel Standard.

We look forward to doing business in California; however, DuPont has remaining concerns with the Second Notice of proposed modification to Obtaining and Using Fuel Pathways in Section 95488(d). The current proposed text is an improvement over the previous version which would have required a provisional status for new fuel producers for two years without the ability to transfer credits. In Section 95488 (d)(1)(D), the updated version appears to allow assigning a temporary fuel production code carbon intensity (CI) that could apply for two quarters. The issue with this approach is that the temporary CI could expire prior to a fuel pathway being approved. A new fuel producer must have 3 months of operational data before submitting a new pathway request pursuant to Section 95488 (d)(2). Completing and submitting an application form after the first 3 months of operation will take several weeks. We are concerned that the fuel pathway approval process could extend beyond the period of time covered by the temporary fuel production code. It is incredibly important for new advanced biofuel producers to be able to sell into the CA market from the first day of operation and continue without a lapse in valid carbon credits. In addition, DuPont recognizes the importance of accurate CI values and believes the Air Resources Board should develop a mechanism to compensate fuel producers or regulated parties when a fuel's CI value is adjusted upwards or downwards to include any change from the temporary fuel production code CI.

Therefore, DuPont recommends that the regulations be modified to: (1) allow the Air Resources Board flexibility to extend the period of time for temporary fuel production codes as long as a new fuel producer is actively seeking a fuel pathway approval; and (2) provide for an audit mechanism to debit or credit for adjusting CI values to fuel producers and regulated parties as needed to accurately account for changing CI values.



## **Introduction**

DuPont is an industry leader in providing products for agricultural energy crops, feedstock processing, animal nutrition, and biofuels. Our three-part approach to biofuels includes: (1) improving existing ethanol production through differentiated agriculture seed products, crop protection chemicals, as well as enzymes and other processing aids; (2) developing and supplying new technologies to allow conversion of cellulose to ethanol; and (3) developing and supplying next generation biofuels with cellulosic ethanol and biobutanol.

We bring the perspective of a company deeply involved in the agricultural and biofuels industries. Our seed business DuPont Pioneer sells corn seed to farmers growing for a variety of end-use markets, including grain ethanol production. Our intimate relationship with our farmer customers and our extensive research provides us significant insight into the agronomics of the harvest and management of corn stover as a cellulosic feedstock. We provide a variety of products for the grain ethanol business as well, including saccharification enzymes and fermentation processing aids, and so have an intimate knowledge of the operation of these relevant sugar fermentation operations.

DuPont began its research into cellulosic technology a decade ago. What started as a lab scouting project grew into a full scale commercialization effort. In 2009, DuPont opened a demonstration facility in eastern Tennessee producing cellulosic ethanol from both corn stover and switchgrass. For the past four years, we have brought together growers, academia, public institutions like the USDA and custom equipment makers to conduct harvest trials on corn stover. All this work culminated in the groundbreaking of a 30 million gallon per year facility in December of 2012 in Nevada, Iowa, located approximately 40 miles north of Des Moines. I am happy to report that we are in the very final stages of construction, commissioning has been initiated and we will be open for business later this year. We anticipate that a number of other companies in addition to DuPont will bring cellulosic volumes to the market. Multiple companies are constructing, starting up or operating facilities producing renewable fuels from a wide variety of cellulosic feedstocks including corn stover, switchgrass, wheat straw, municipal solid waste and wood fiber. Many of these are large, well-capitalized, sophisticated companies with long track records in designing, constructing and operating manufacturing facilities. This diversity of operations provides a high level of confidence for multiple technologies succeeding at commercial scale.

In addition to cellulosic ethanol, DuPont is pursuing another advanced renewable fuel with our partner BP in a 50/50 joint venture called Butamax™. The joint venture has developed and extensively tested bio-butanol, a higher alcohol fuel produced by fermenting biomass. Biobutanol has excellent fuel properties, with higher energy density than ethanol and the ability to be distributed via the existing gasoline infrastructure, including pipelines. It also reduces volatility, allowing butanol gasoline blends to be used in the summer in regions that currently require waivers from air quality regulation for the use of ethanol-gasoline blends. Because butanol has less affinity for water and is a weaker solvent than ethanol, it will be more compatible with existing equipment, including small engines.

## **The proposed modification to Provisional Pathways**

In the Proposed 15-day Regulation Order containing the Second Notice of Modified Text and Availability of Additional Documents and Information for the Proposed Re-Adoption of the Low Carbon Fuel Standard, the Air Resources Board proposes the following in Section 95488 (d)(1)(D) and (d)(2):



(D) A temporary FPC approved for use by the Executive Officer will be permitted for LRT-CBTS reporting purposes for up to two quarters. Reporting will be granted only for the quarter during which a temporary FPC is approved for use and the subsequent full quarter.

\* \* \*

(2) Provisional Pathways. As set forth in sections 95488(c)(3) and (c)(4)(l)2., LCFS fuel pathways are generally developed for fuels that have been in full commercial production for at least two years. In order to encourage the development of innovative fuel technologies, however, applicants may submit New Pathway Request Forms, as set forth in section 95488(c)(1), covering Tier 1 and Tier 2 facilities that have been in full commercial operation for less than two years, provided they have been in full commercial production for at least one full calendar quarter. If that form is subsequently approved by the Executive Officer, as set forth in section 95488(c)(2), the applicant shall submit operating records covering all prior periods of full commercial operation, provided those records cover at least one full calendar quarter. The following subsections govern the development, evaluation, and post-certification monitoring of such provisional pathways.

### **Analysis and Recommendations**

The proposed text is overly restrictive and burdensome for both California and biofuels interests that are set to bring new technologies and fuels to market in California. DuPont fully appreciates the need for accurate CI values for fuel that is sold pursuant to the LCFS while also encouraging production and growth for the advanced biofuels sector. For this reason, we are highlighting the following concerns with the Second Notice of proposed modified text from above:

1. The current proposed text would by default assign a temporary, conservative CI value to these fuels that can only be applied for two quarters. This means that the temporary CI credits could lapse before the fuel pathway is approved. Any waiting period that prevents these fuels from receiving CI credit is fundamentally unfair and is not based on principles of sound science.
2. Any waiting period that prevents a biofuels producer from receiving CI credits will prevent and delay fuel from being sold in California. DuPont's cellulosic ethanol is being manufactured in Iowa. Without the benefit of the CI credit, it would be unreasonable for us to make special arrangements to ship our fuel to California. In addition, obligated parties in California would have no reason to purchase fuel without CI credits. Given their obligations under the LCFS, they would need to purchase fuel with CI credits.
3. Any waiting period that prevents a biofuels producer from receiving CI credits would create an unfair competitive advantage for existing fuel producers. These producers would not be required to wait to receive CI credits thereby rewarding current producers.



4. New facilities need to be able to sell fuel for full market value from initial production and on a continuous basis in order to survive. Biofuels facilities do not have storage capacity beyond one or two days of fuel production. In addition, encouraging growth in the cellulosic and advance biofuels sector can only be achieved with supportive federal and state biofuels policies. A waiting period for CI credits would discourage rather than encourage growth.
5. The temporary fuel production code CI for cellulosic ethanol is 41.05 as set forth in Table 7 in Section 95488. There is a very high probability that after one quarter of production and subsequent quarters of energy data submitted, that the CI value for this fuel will be reduced significantly. Therefore, we respectfully request a process for which any documented change in the CI value, in either the positive or negative direction, enables fuel producers to receive credit or require a debit for the change in CI value.

Given the concerns above, DuPont recommends that the regulations be modified to provide the Air Resources Board the requisite flexibility to extend the assigned temporary fuel production code CI value as long as necessary while the new producer is actively pursuing a new pathway approval. New producers should then be able to revise the CI value as quarterly energy collection data warrants with a debit or credit applied that reflects the change in CI value.

Thank you for the opportunity to comment on the Second Notice of the Proposed 15-day Regulation Order for the Proposed Re-Adoption of the Low Carbon Fuel Standard as this is an important issue for DuPont's biofuels business. Please contact me at Jan.Koninckx@dupont.com if you have any questions about the comments provided.

Sincerely,

A handwritten signature in black ink, reading "Jan Koninckx", written in a cursive style.

Jan Koninckx, Global Business Director for Biorefineries  
DuPont Industrial Biosciences